Model 959 Paper Folder

Installation, Operation, & Maintenance Instructions

Specifications

Feed Rate	18,000 pcs. per hour*
Types of Folds	Letter, Single, Z, Double Parallel, French, Baronial
Feeding Method	Bottom Friction
Lightest Paper	9# (Onionskin)
Heaviest Paper	110# (Bristol)
Max. Paper Size	20" x 14 1/16" (66.04 x 35.72cm)
Min. Paper Size	2" x 3 1/4" (5.08 x 8.26 cm)
Max. Fold Length	
First Fold	13" (33.02cm)
Second Fold	13" (33.02cm)
Min. Fold Length	
First Fold	1 1/2" (3.81cm)
Second Fold	1 1/2" (3.81cm)
Fold Stapled Sets	Max. 3 Sheets
Electrical Specifications	115V 60 HZ (3.5 Amps)
UL/CSA Approved	Yes
Dimensions	24" x 15" x 16"
Shipping Weight	115 lbs.

* 8 1/2 x 11 sheet of paper

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Serial No. _____

Introduction

Thank you for selecting the Martin Yale Model 959 Folder. Your folder and all the components were 100% tested at our factory. We folded, perforated, and scored paper, performing over 100 individual functional checks on this folder.

Please read and understand this manual completely before attempting to operate the folder. This will prevent most common problems and eliminate operator-associated errors. Most performance related problems are due to inexperience with the wide range of machine adjustments which are available to you. Understanding these instructions is vital to years of excellent performance by a time-tested machine.

WARNING! This machine contains moving parts. Never connect power to the machine until you are ready to set up and operate the folder. During setup, operation, and maintenance keep hands, hair, loose clothing, and jewelry away from all moving parts. Serious bodily injury could result. Service, or disassembly of side covers should only be attempted with the power disconnected and locked out. The AC outlet must be nearby and not blocked.

Martin Yale
INDUSTRIES, INC.

1.0 Nomenclature

The nomenclature below will be used to describe accessories and parts of your folder found in Fig. 1:

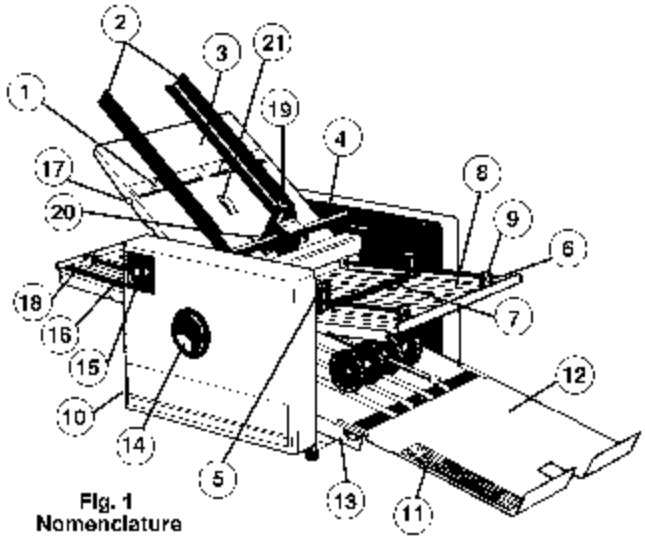


Fig. 1
Nomenclature

1. Paper Guide Adjustment
2. Paper Guides
3. Feed Table
4. 3/4" Tie Rod
5. Paper Stop Release
6. Upr Fold Indicator Ruler
7. Paper Stop
8. 1st or Upper Fold Table
9. Micro Adjustment
10. Circuit Breaker
11. Simplified Fold Chart
12. Exit Table
13. Conveyor Table
14. Handwheel
15. On-Off Switch and Variable Speed Control
16. Angular Control Adj.
17. Paper Guide Shaft Adj. Screw
18. 2nd or Lower Fold Table
19. Retarder Assembly
20. Feed Tire
21. Auxiliary Feed Tire

2.0 Basic Set-Up

Un-pack the folder and save all the packaging. Inside the main carton, locate a box containing the 2 fold tables and box containing the feed table, exit table, these instructions, and a bag containing 3 allen wrenches and the handwheel. Remove the card board pad (s) from the bottom of the folder and place the machine on a sturdy, flat table or bench.

CAUTION: Do not plug the power cord in until the basic set-up is complete.

Begin the basic set-up as follows:

Handwheel: Install on the main roller shaft (Fig. 1).

Feed Table: With the allen wrench provided, loosen the guide fingers and rotate them up and away. Insert the front end of the feed table onto the locator pins near the 1st roller and gently lower the back end down onto the back pins (Fig. 2).

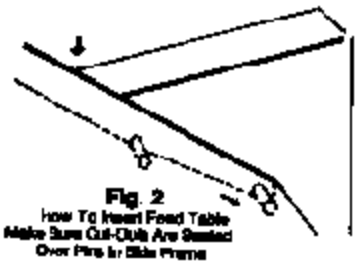


Fig. 2
How To Insert Feed Table
Make Sure Cut-Outs Are Seated
Over Pins In Side Frame

Note: *Turn the handwheel counter clockwise while lowering the table to easily engage the feed drive gears. Never drop or force the table down, as this may result in damage to the drive gears.*

Fold Tables: Install the fold tables onto the locator pins with the folding (open) end towards the rollers (Fig. 3 & 4).

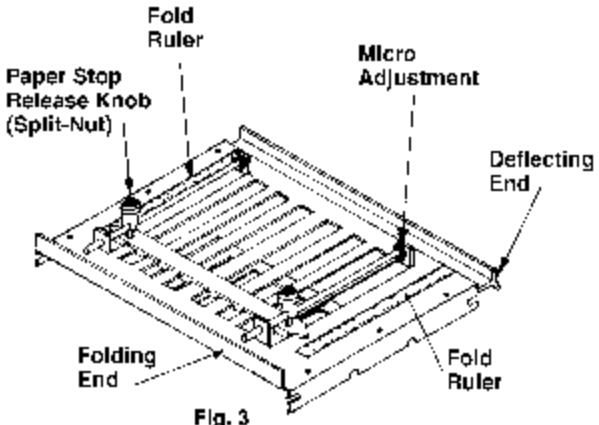


Fig. 3
Fold Table

Note: *Turn the handwheel counter-clockwise while lowering the table onto the back pins for easier insertion. Turn clockwise when removing the tables. Be sure the tables are fully seated on the pins.*

Fig. 4
How To Insert Upper Or First Fold Table.
Lower Or Second Fold Table Installs Similarly

Exit Table: Install exit table by engaging tabs into slots provided on the conveyor table (Fig. 5). Lower into position as shown in Fig. 1.

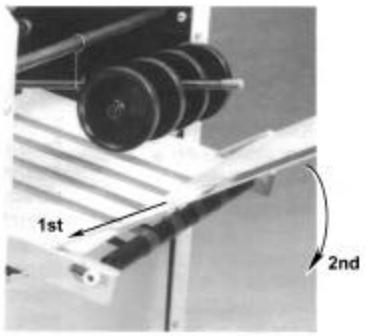


Fig. 5
Insert Exit Table Tabs Into Conveyor Table
And Lower Into Position

Accessory Shaft Journals: Located on the side opposite the handwheel are two accessory shaft journals (Fig. 6). These journals are factory installed. Due to vibration in shipment, they may come loose. Check that the journal shafts are pushed into the accessory shafts place and rotated clockwise to lock in place. Test by pulling on the journals; they should not come out.

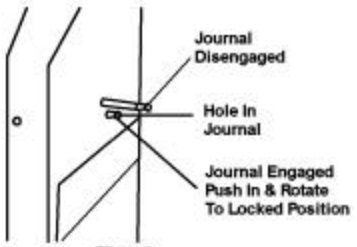


Fig. 6
Accessory Shaft Journal

2.1 Retarder Adjustments

Loosen 2 socket head set screws on retarder assembly and rotate until retarder wheel is centered over feed roller. Use the retarder template shown in this manual (cut out along line), place bottom edge of the template on feed table and over rollers until the angle of the template meets the retarder assembly. Rotate retarder until it is parallel with retarder template, making an angle of 83 degrees. Tighten the two socket head set screws on retarder. See Fig. 7.

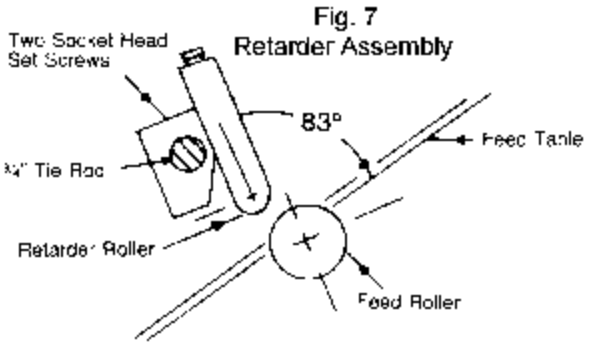


Fig. 7
Retarder Assembly

2.22 Guide Finger Adjustments

The height adjustment of the guide fingers should be approximately 1/32" from the surface of the feed table. See Fig. 7A. This guides the paper more evenly and accurately into the rollers for folding. The angle of the guide fingers should be approximately 90 degrees to the feed table surface. See Fig. 7A. This will reduce the possibility of paper lifting too high, thus wrinkling the paper and possibly causing the machine to jam.

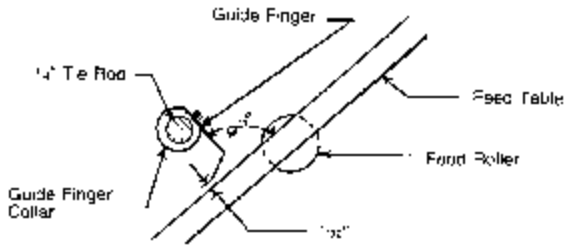


Fig. 7A
Guide Finger Adjustments

Connect the power cord to a properly rated and grounded outlet. This concludes the basic set-up of your folder. This does not in any way indicate that the folder is ready for use. You must complete the Operation section of this manual *before* turning the unit to the ON position.

3.0 Operation

When the folder has been properly adjusted and turned to the ON position, the stock to be folded is placed upon the feed table. The stock is then automatically fed into one or both of the fold tables, depending on the type of fold or folds desired, and the folded sheets are delivered onto the exit table in an overlapping row.

3.1 Adjust Retarder

Directly above the feed roller is the retarder, mounted in an adjustable housing. This retarder permits automatic feeding of various stock thicknesses when adjusted properly. The thumb screw control raises and lowers the retarder. Place a sheet of paper to be folded between the feed roller and retarder roller, and while the folder is running, hold the sheet firmly to prevent it from feeding into the rollers. Rotate the thumb screw clockwise to increase pressure or counter-clockwise to decrease pressure. The retarder is properly set when you have a noticeable drag on the paper, yet not so tight that you cannot prevent the paper from being fed. The paper should separate and feed one sheet at a time. If two or more sheets are fed together, turn the thumb screw on the retarder assembly clockwise slightly to increase pressure.

WARNING: Please be sure to adjust the allen screws 1/4 turn past snug. DO NOT OVERTIGHTEN. Doing so could damage the Retarder Assembly.

Note: *When changing to a different weight of paper, this setting must be altered. The retarder roller may be rotated to get a new surface as the old one wears. Loosen the screw and nut and rotate the retarder to a new position. Retighten screw and nut.*

3.2 Folding

The fold tables can be installed with either end in the machine. One end is a deflecting end, and the other is a folding end. See Fig. 3. When the deflecting end is in the machine, the sheets cannot enter the fold table. They simply continue along the paper path. If the folding end is in the machine, the sheets enter the fold table to become folded before continuing along the paper path. The location of the fold is determined, for any given length of sheet, by the location of the adjustable paper stop. This location is read directly from the fold rulers, which are located on either side of the fold tables.

3.2.1 To relocate a paper stop:

1. Loosen the thumb knobs on top of the paper stop assembly about two full turns (counterclockwise). A spring under each nylon split-nut helps to disengage the split-nut from the micrometer rod threads.
2. Place the thumb on top of the left and right locking knobs and with your fingers grasp the split-nut for control. Slide the paper stop assembly parallel along the micrometer rods to its required position. Turn the thumb knobs clockwise to lock paper stop into its new position.
3. Make test fold and check fold accuracy. Fold corrections can be made by loosening the thumb knob 1/4 - 1/2 turn. The micrometer wheel can now be turned, moving the paper stop for fold corrections. Re-tighten thumb knobs. Repeat step three until folded material is acceptable.

Note: *Rulers are only approximate. Adjustments will have to be made for various papers, speed of machine, out-of-square paper, etc.*

3.3 Single Folds

See Fig. 8. The single fold can be made with either fold table. The selected fold table should be inserted folding end inward, and the other table should be inserted deflector end inward. Single-folding in the 1st fold table provides better results when light-weight paper stock is used, and it generally results in greater accuracy.

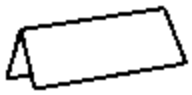


Fig. 8
Single Fold

Single-folding with the 2nd fold table will facilitate stacking and minimize curl when heavier stocks are run. Crushed folds are an indicator that folding should be done with the 2nd fold table.

3.4 Double Folds

To make the standard double folds in sheets sizes of 6" x 9", 8 1/2" x 11", 1 1/2" x 14", and 11" x 17", refer to the simplified fold chart on the receiving tray to find the rule settings for the paper stops. When double folding, the folding end of both fold tables must be installed with the folding ends inward. For sheets of other sizes, manually fold a sheet in the desired fashion and measure the folded sheet to determine approximate fold table rule settings. Final adjustments can be made by running a sheet through and readjusting as necessary with the micro adjustment. See Fig. 9 for common double folds.

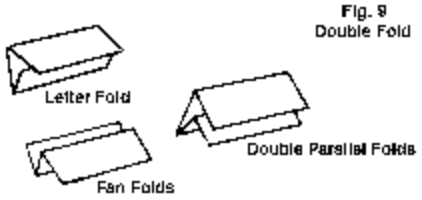


Fig. 9
Double Fold

Note: *The folder should be run at the same speed during set-up as it will be during production to guarantee folding precision.*

3.5 Folding Pre-folded Sheets, Bulletins & Booklets

French or Baronial folds can be made by refolding the folded stock. See Fig. 10. To fold a pre-folded sheet in half for a French fold, set the folder up the same way as for a single fold. For a Baronial fold, set the folder up as for a double fold. Be sure to adjust the retarder for thickness of paper.

Note: *Greater accuracy will result if the paper is scored during the first folding operation. This does not require an extra operation.*

Fig. 10
French and Baronial Folds

3.6 Folding Stapled Sets

We do not recommend folding stapled sets as it shortens the life of rubber rollers. However, if necessary, we suggest the following:

1. Adjust retarder to thickness of stapled set.
2. Do not attempt to fold more than three (3) sheets at one time.
3. Use two (2) staples (one on each side of the feed roller) in staggered locations.
4. If the above does not work, raise the retarder to maximum opening, and hand feed individual sets.

3.7 Set The Stacking Wheels

The function of the stacking wheels, which are located on the conveyor table, is to arrange the folded sheets into an overlapping stack. Position the stacking wheel assembly so that the leading edge of a folded sheet touches the wheels when the trailing edge just falls onto the exit table.

For most folds, the deflector faces upward (in a non-functional position). To eliminate nesting and to improve the stacking of very short folds, the deflector may be positioned to face downward. This is accomplished by removing the spring-loaded stacking wheel assembly and turning the deflector to a downward position. The height of the deflector is also adjustable by means of slots on the deflector. The deflector (plate only) may be removed from the assembly when it is necessary to mount strippers while perforating. Two sets of holes are provided for positioning the stacking wheels. The front set will position the deflector closer to the exit for short folded stock.

A stacking wheel hook hangs from the 1/2" tie rod in the exit area to elevate the stacking wheel assembly, if necessary, for proper delivery of large sheets. Simply rest the stacking wheel axle in the curved section of the hook.

3.8 Loading Paper

1. Adjust the paper guides' inner edges to the width of the paper (a ruler on the feed table is provided for easy adjustment). Avoid crowding the paper as well as adjusting too loose. Allow 1/32" of play.
2. Take a stack of paper about 1/2" to 3/4" in height and jog it to align the edges.
3. Place the stack between paper guides. Turn the folder on and adjust the speed.
4. The paper should separate and feed one sheet at a time. If two or more sheets are fed together, turn the thumb screw on the retarder assembly clockwise slightly in increase pressure.
5. While the folder is operating, more sheets may be added to the stack on the feed table, but do not overload the stack. Continue this procedure until the run is complete.

3.9 Speed Control Adjustment

The control knob is a combination On-Off switch and variable speed control. Turn the knob clockwise to reach the ON position, and continue to turn clockwise to increase the speed.

Every stock has an optimum folding speed. Slower speeds are recommended for lightweight stocks and higher speeds for heavier weight stocks. ***Note:*** *Changing the speed may alter the fold dimensions. You can compensate by making a micro adjustment to the setting of the paper stop.* If a jam occurs, turn the machine to the OFF position immediately and follow the jam clearing procedure.

3.10 Clearing A Jam

When the folder is properly set up, the chances that a jam might occur are minimal. If a jam should occur, proceed as follows:

1. Turn the machine to the OFF position immediately.
2. Remove the paper stock from the feed table.
3. Remove the fold tables if necessary.
4. Remove jammed paper by manually rotating the handwheel to clear the machine. The machine must be cleared of jammed paper before it is turned to the ON position again.
5. Replace the fold tables that were removed, and resume operation.
6. If the jam was severe enough to have stalled the motor, the circuit breaker may have opened. In this case, allow several minutes for the breaker to cool, and then push the reset button.
7. See Trouble-Shooting Guide for possible causes of jams.

3.11 Perforating, Scoring and Slitting

Note: *Slitter is optional and not supplied.* Perforating, scoring and slitting operations are performed by means of certain accessory attachments fastened to the accessory shafts, which are located in the exit area of the machine. For slitting or perforating, the appropriate accessory attachments (slitter or perforating cutter) must be positioned *against the lower backup hub(s)* **not in the slot** (Fig. 11). For scoring operations, the upper brass roller must be centered to prevent cutting through the paper. Make sure the rubber guide rollers are positioned outside the attachments and inside the paper margins. Guide rollers should be positioned with the outer edges of the rollers approximately 1/4" from the paper margins. Both the guide rollers must make contact with the paper passing through. Always keep the guide rollers in contact with their backup hubs on the lower accessory shaft.

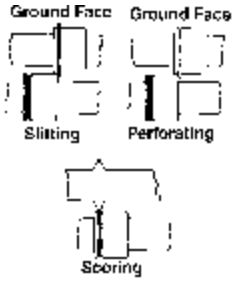


Fig. 11
Englarged View Of Scoring. Perforating, And Slitting Operation

Special Note: *The rubber guide rollers should always be adjusted so they contact the paper. This should be done even if your are not slitting, scoring, or perforating. The rubber guide rollers help to control the paper exiting from the folding rollers.*

3.12 Positioning The Attachments

1. Mark a sheet of paper at the point to be perforated, scored or slit.
2. Use the handwheel to turn the rollers and pass a sheet through the machine by hand until it makes contact with the accessory shaft.
3. Remove the 1st fold table for easier access.
4. Using the allen wrench supplied, loosen the set screw in the backup hub and slide the hub on the lower shaft so that the ground face of the hub coincides with the marked point on the paper. If scoring, the"V" slot of the lower backup hub must coincide with the marked point. Position the set screw over the flat on the shaft. Tighten the set screw. Be sure not to tighten the set screw against the round surface, as this will cause burrs and prevent the accessories from sliding freely.

Note: *Only one side or edge of the backup hub is sharpened and is to be used. The ground side of the backup hub is opposite the "V" slot (Fig. 11).*

5. Move the accessories into place on the upper shaft. The proper positions of attachments are relative to the backup hubs as shown in Fig. 11.

If the accessories are difficult to move or if it is necessary to add accessories or change their position on the shaft, the journals (extending out from the ends of the shafts) can be removed to loosen the accessory shafts.

6. Turn the journals counterclockwise and pull them out. If either one is difficult to remove, place a pin through the hole in the journal and rotate (Fig. 12).

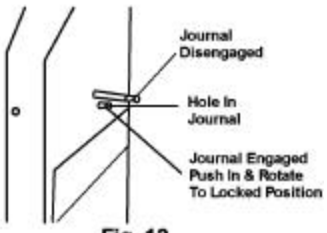


Fig. 12
Accessory Shaft Journal

7. Adjust the accessories as necessary.
8. Replace the journals and rotate them clockwise until they are locked.
9. Install the stripper if necessary. The stripper, which resembles a large safety pin, is found hanging from the 1/2" tie rod in the exit area. It is designed to keep lightweight paper from wrapping around the perforator. The stripper should be installed in the manner shown in Fig. 13.

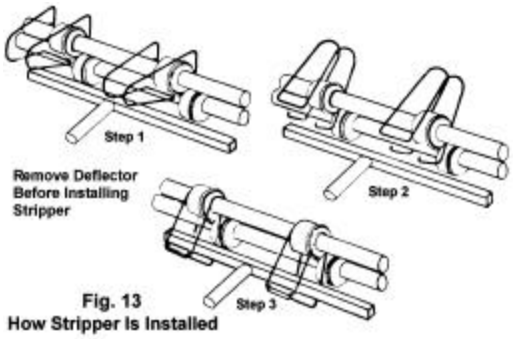


Fig. 13
How Stripper Is Installed

10. Replace the 1st or upper fold table.

Remember: If paper is not to be folded, insert the deflector (closed) ends of the fold tables into the machine.

Note: *This concludes most normal operating procedures. However, there are several adjustments which are not covered in the operation section. These will be covered later, so please continue to familiarize yourself with these instructions.*

4.0 Maintenance

***WARNING!** Rotating parts and electrical circuits will be exposed when side covers are removed. Always turn the machine completely off and disconnect all power sources when servicing this machine.*

Your folder is a precision machine that has been designed to provide dependable performance over many years. But, like your automobile, proper maintenance is important for good performance. Read this section carefully for helpful hints to keep your folder operating at peak efficiency.

4.1 Rubber Folding Rollers

The rubber folding rollers on your folder are made of a specially-formulated compound which will provide accurate, reliable performance over a long period of time PROVIDED THEY ARE KEPT CLEAN.

During the course of operation, the rollers tend to pick up ink, lint, talc, powder, and coatings from paper stock. If left to accumulate on the rollers, these substances can cause the rollers to become slick and hard. HARD, SLICK ROLLERS ARE THE MAJOR CAUSE OF FEEDING AND FOLDING PROBLEMS. This causes: inconsistent folding, inconsistent feeding, wrinkling the paper, paper coming out of fold table, gaps between the rollers, and frequent jamming. If your folder shows any of the above symptoms, the cause is usually DIRTY ROLLERS.

4.1.1 How To Clean Folding Rollers

It is important that you clean your rollers THOROUGHLY. It is INSUFFICIENT to just clean the surface. You must get the ground-in foreign matter out of the rollers.

***Note**: Use Martin Yale Rubber Roller Cleaner and Rejuvenator. Do not use detergents, blanket wash, or any abrasive cleanser. Use of any non-recommended cleaning material may deteriorate the rollers and void your warranty.*

Clean the rollers as follows:

1. Disconnect the power supply cord.
2. Remove the feed table and fold tables to gain easy access to the rollers.
3. Liberally spray *Martin Yale Rubber Roller Cleaner and Rejuvenator* across the rollers.
4. Using a clean cloth or soft nylon brush, press hard, moving back and forth across each roller. You will see the accumulated ink begin to appear on the cloth or brush. Use the handwheel to turn the rollers. Continue to apply the roller cleaner to the entire surface of each roller and clean until no ink appears on the cloth or brush.

***WARNING!** Failure to thoroughly and immediately clean off all residue and cleaning solvents may result in rollers bonding to each other. This potentially can lead to damage of the rollers, your machine's drive system, and/or the motor.*

When your rollers are clean, they should be soft and not hard or slick to the touch. Regular cleaning will add years of life to your rollers and will assure you of optimum performance.

4.2 Lubricating Folder

Your folder should be properly cleaned and lubricated EVERY 25 HOURS OF USE to make sure that all moving parts continue to operate properly.

1. Disconnect the power supply cord.
2. Remove any accumulated lint and paper dust from the ends of the rollers and bearings with a 1" paint brush.
3. Place one drop of light machine oil in the oilite bearings located at the ends of the roller shafts.

TAKE CARE NOT TO DROP OIL ON THE RUBBER ROLLER. Oil can make the roller swell and cause folding problems. IF ANY OIL DROPS ONTO THE RUBBER ROLLERS, WIPE IT OFF IMMEDIATELY.

4.3 How To Clean Feed Tire

The feed tire should be cleaned with a damp cloth with soap and water or a mild detergent. Do not saturate the feed tire with any liquid. If unable to remove ink from feed tire, a very small amount of *Martin Yale Rubber Roller Cleaner and Rejuvenator* may be put on a cloth and used to remove the ink. DO NOT SPRAY OR POUR ANY CLEANER ON THE FEED TIRE.

4.4 Parts and Service

Contact your Martin Yale representative for parts and service. Include the machine model and serial numbers when ordering.

5.0 Adjustments

Described below are several adjustment which are available to you on your folder.

5.1 Angular Control Adjustment

This adjustment is factory set and will only be required if the roller springs are worn, a gap exists between the 1st and 2nd fold rollers, or you cannot perforate or score parallel to the edge of your stock. DO NOT MAKE THIS ADJUSTMENT until you are sure that the paper guides are perpendicular to folding rollers and that paper is cut square. A crooked fold can be compensated for by adjusting the paper stops on the fold tables.

Paper pulling to one side after contacting the 1st fold roller can be corrected by increasing or decreasing the fold roller tension. Insert the allen wrench provided into the hole in the side cover near the speed control (Fig. 1). Clockwise rotation of the set screw inside will result in paper pulling more to the operators' side (side with handwheel). Counter-clockwise rotation of the set screw will result in paper pulling more to the side away from the operator. (Fig. 14). Adjust the screw about 1/8" turn at a time and test. Do not exceed 1/2" turn in either direction, as it is inef-

fective beyond that. Take care not to back out the screw too far as it could fall loose inside the frame.

Fig. 14
Angular Control Adjustment

5.2 Folder Belt Tension

Warning! Disconnect the power cord before making this adjustment.

Remove right side cover, hand-wheel, circuit breaker, speed control knob and nut. Check belt tension on motor timing belt. It should deflect approximately 1/4" - 3/8". If loose, adjust by loosening the four motor screws and relocate the motor. Reassemble side components.

5.3 Paper Guide Adjustment

Place the paper to be used on the feed table, between the paper guides. The guides should be placed so that the center of the feed roller is aligned approximately with the center of the paper. The guides should be adjusted to allow the paper to move freely down the feed table without angling to one side or the other. Paper to be fed into the machine should always be jogged and aligned to enter the fold tables squarely. The paper guides can be adjusted to the proper width by loosening the adjustment screw located underneath the feed table and sliding the rod clamps sideways. The paper guides are mounted to the feed table with an adjustment bar. This adjustment bar is fixed on one end and is adjustable with a 1/4 - 20 lock screw on the other end. To adjust, place a square against the folding rollers and one paper guide, loosen the lock screw and move the shaft to square the guide to the rollers. Lock the screw tightly in place.

6.0 Troubleshooting Guide

Listed below are possible problems with the most likely cause and recommended solutions. Refer to maintenance as applicable.

6.1 Machine Will Not Run Or Runs Slow Or Intermittently

No Power

Check building power supply outlet, fuses, and/or circuit breaker.

Folder Circuit Breaker Tripped

Allow to cool, then reset by pushing the button in until it stays. A tripped breaker indicates a more serious problem such as seized bearings, paper jam, tight drive belt, or low building supply voltage.

Tight Or Seized Bearings

Check for lack of cleaning and lubrication. Replace if worn or over-heated (dis-colored). See section 4.2.

Loose Wiring

Due to vibration or improper handling when removing the control side cover, wire connections may have become loose or disconnected. See the wiring diagram.

Loose or Broken Belts

Adjust or replace as necessary.

Failed Electrical Component

Check speed control, circuit breaker, and motor. Replace if necessary.

6.2 Paper Will Not Feed

Retarder Adjustment Too Tight

See Section 3.1.

Retarder Roller Worn Out

A flat spot may wear on the bottom of the retarder roller after some period of use. To correct, loosen the nut and bolt that locks the roller from turning. Reposition the roller with the flat spot facing the folding rollers. Tighten the nut and bolt securely to prevent it from turning.

Excessive Ink Buildup On Feed Tire

See Section 4.3.

Feed Roller Clutch

Turn the machine to the OFF position. The feed roller should spin freely forward by hand but not backward. If the feed roller rotates both ways or does not turn forward easily, replace the clutch.

Paper Guides Too Tight

See Section 3.8 and 5.3.

6.3 Length of Fold Varies

Speed Adjustment

The length of fold will vary slightly with speed changes. When adjusting fold table stops, make final setting at the speed you intend to fold.

Loose Screws On Fold Table Paper Stops

Tighten bolts on bottom of split-nut and eliminate any excess free play between micro adjustment nuts.

Buildup On Folding Rollers

See Section 4.1.

6.4 Paper Jams or Tears

Double Sheeting

See Section 3.1.

Worn out feed roller rubber: replace as necessary.

Speed Too High

Lightweight stock may require a slower speed.

6.5 Wrinkling Paper

Retarder Adjusted Too Tight

See Section 3.1.

Feed Roller Clutch

See Section 6.2.

Worn Folding Rollers

Remove the feed table and the fold tables. Rotate the handwheel slowly and visually inspect for gaps between all the rollers. Any gap between the 2nd and 3rd or 3rd and 4th rollers indicates worn-out rollers or worn-out folding roller springs. A gap on the operators' side between the 1st and 2nd roller may only indicate the need for Angular Control Adjustment, see section 5.1.

6.6 Paper Jams On Exit Table

Stacking Wheels Seized

Insure that wheels rotate freely.

Stacking Wheel Or Deflector In Wrong Position

See Section 3.7.

Accessory Shaft Guide Rollers

See Section 3.11.

Conveyor Belts Not Turning

Check conveyor drive belt and belt tension rollers.

Stacking Wheel Mis-adjusted

This is characterized by a jam on the exit conveyor that backs up into folding machine. See section 3.7.

Paper Sticks To Perforating Wheel

Install stripper provided and illustrated in Fig. 13. See Section 3.12.9.

6.7 Paper Folds Are Crooked

Paper Out Of Square

The fold table paper stops can be adjusted to compensate for slightly out-of-square paper. See section 3.2.1.

Paper Guides Loose

Adjust opening until a single sheet of paper has no more than 1/32" clearance when placed at the bottom of paper guides.

Paper Not Cut Parallel

Lay a single sheet of paper at the bottom of paper guides, and adjust one paper guide to compensate for this.

Note: *One paper guide must be kept perpendicular to the folding rolls.*

Dirty Rollers

See Section 4.1.

6.8 Poor Perforating, Slitting or Scoring

The Cutting Wheel Is Not Tight Against Or Is On The Wrong Side Of The Backup Hub.

See Section 3.12.

The Cutting Wheel Or Backup Hub Is Dull.

Replace parts if necessary.

The Accessory Shaft Spring Is Worn Causing Shallow Perforations.

Replace spring if necessary.

The Accessory Shaft Journals Are Not Properly Installed

See section 2.0.

The Accessory Shaft Guide Rollers Are Improperly Located

See section 3.11.

Scoring Cuts Through Paper - Caused by the scoring roll too sharp (sand lightly) or by the scoring roll not centered in the groove of the backup hub.

6.9 Perforating, Slitting or Scoring Not Parallel with Edge of Paper

See Section 5.3.

The Paper Is Not Cut Square Or Parallel.

The paper guides are not perpendicular to the fold roller.

The Paper Guides Are Too Loose.

See Section 3.11.

Accessory Feed Rubber

Rollers are worn or are not contacting paper as it passes between accessory shafts.

The Fold Roller Angular Adjustment Is Off

See Section 5.1 (Fig. 14).

6.10 Marks On Paper

Excessive Dirt or Ink On Machine

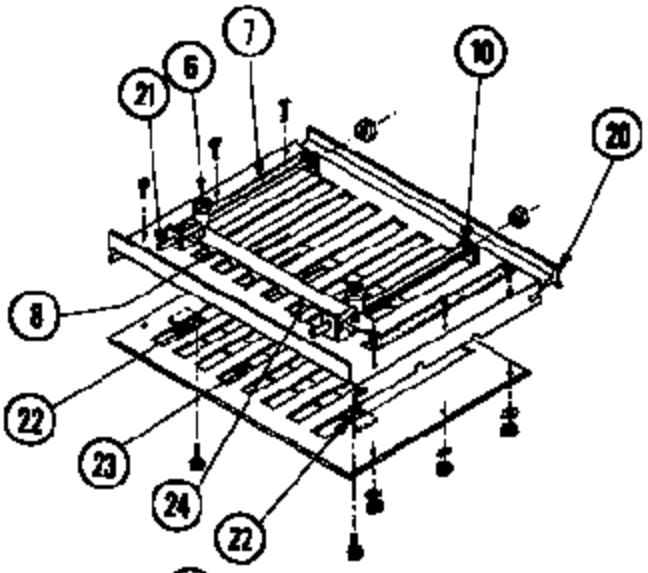
Insure that no ink or dirt buildup exists on feed roller rubber, folding rollers, or rubber guide rollers on accessory shaft.

Ink Is Not Dry

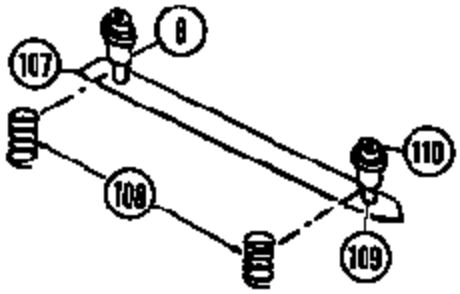
Paper printed with rubber-based inks and glycerin-based fountain solutions that do not require overnight press clean-up generally will not fully dry for some period of time. Wet ink will “smudge” as the printed stock is rubbed against each other at the retarder roll. Proper ink chemistry and drying time can reduce this problem. Also, humidity greatly affects drying time.

Reference Illustrations

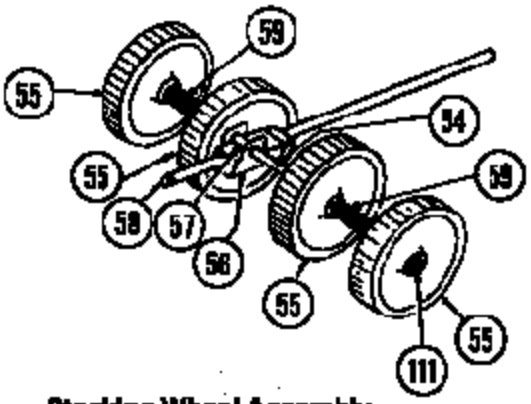
Refer to Parts List (pages 10 & 11)



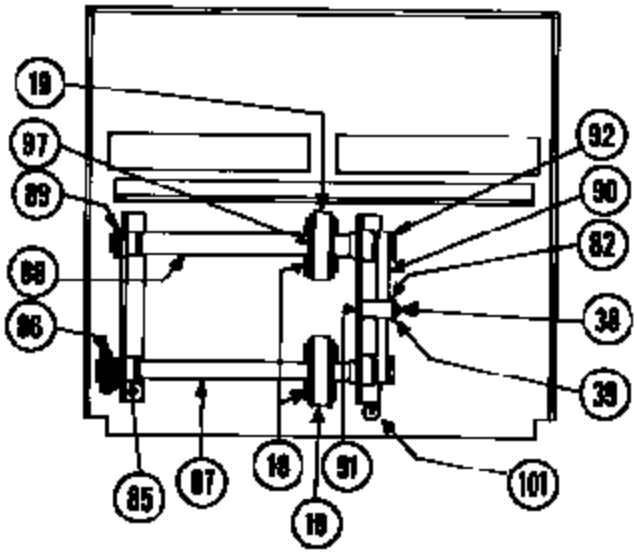
Assembly (9), Upper and Lower Fold Tables Complete - WRA095101



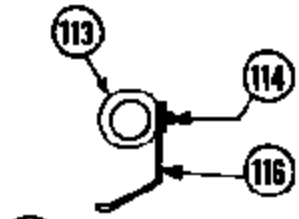
Fold Adjustment Assembly
WRA096102



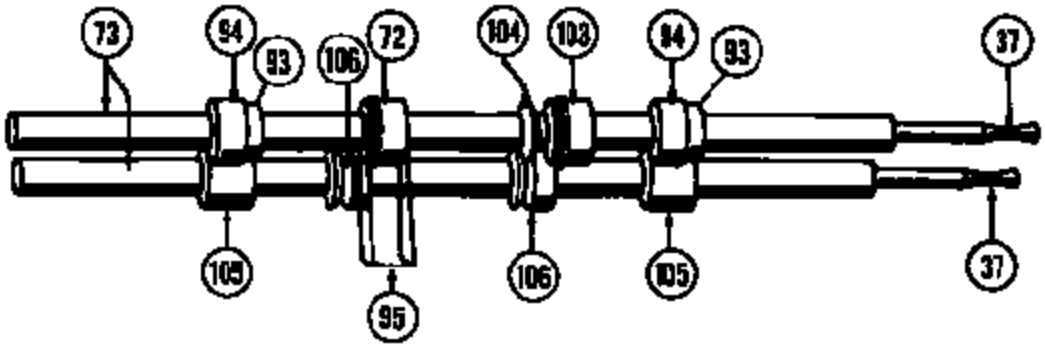
Stacking Wheel Assembly
WRA096103



(4) Feed Table Parts Detail



Guide Finger Assy. (Mount on (5))



Upper and Lower Accessory Shafts

PARTS LIST

Item #	Description	Qty.	Part No.	Item #	Description	Qty.	Part No.
1	Paper Guide Adjustment Knob	2	W-O032036	59	Stacking Wheel Weights	2	W-O095268
2	Paper Guide (L.S.)	1	W-A095040	60	Terminal Block	1	M-S033024
3	Paper Guide (R.S.)	1	W-A095041	61	Conveyor Shaft	1	W-O095135
4	Feed Table	1	W-A095285	62	Stacking Wheel Shaft (Square)	1	W-O008017
5	3/4" Tie Rod	1	M-O003066	63	Stacking Wheel Hook	1	M-S031060
6	1/4-20 x 5/8 Thumb Knob	2	W-O032036	64	Roller Guard Brkt. (R.S.)	1	W-O095265
7	959 Fold Ruler	2	M-S015283	65	Tie Rod	2	W-O095276
8	Paper Stop	1	W-O095012	66	Side Cover R.S.	1	M-O095901
9	Fold Table Assemble	1	WRA095101	67	Compression Spring	1	M-S031050
10	Micro Adjustment Wheel	2	M-O095131	68	Main Drive Roller	1	WRA095034
11	Folding Chart	1	M-S015282	69	Folding Roller	3	WRA003015
12	Receiving Tray	1	W-A095064	70	Flanged Oilite	3	M-S013010
13	Exit Table	1	W-O095035	71	Right Side Frame, 959 FR	1	W-A095323
14	Handwheel	1	M-S032047	72	7 Tooth Perforator	1	W-A03085B
15	On/Off Switch & Var Speed Control	1	WRA095500	73	Accessory Shaft	2	M-A003018
16	Paper Guide Rod	1	W-O095015	74	Roller Pinch Guard	1	W-O095279
17	Retarder Housing Assembly	1	W-A095119	75	Short Drive Shaft	1	W-O095267
18	Feed Roll Arbor	2	W-I095143	76	Feed Drive Shaft	1	W-O095287
19	Feed Roll Tire	2	W-O008015	77	Timing Belt 150T	1	M-S025026
20	Aluminum Deflector	2	W-O095124	78	Feed Table Pins	11	M-O003104
21	Adjusting Screw	4	M-O095260	79	Roller Guard Brkt. (L.S.)	1	W-O095280
22	Spacer	2	M-O095037	80	Foot w/Stud (Glide)	4	M-S63751408
23	Tie Bar	2	W-O095032	81	1/4 x 20 Keps Nut	4	M-S63251449
24	Paper Stop Bumper	2	M-S030015	82	Idler Bushing	1	M-S013053
25	60 T Timing Pulley	2	M-S022021	83	Timing Belt 130T	1	M-S025024
26	Motor Pulley	1	M-S022017	84	14 Tooth Gear	1	M-O095903
27	210 XL037 Timing Belt	1	M-S025010	85	Flanged Oilite	4	M-S013050
28	Nylon Gear 24T 3/8 ID	2	M-O003033	86	Gear “DD”	3	M-O095306
29	Nylon Gear 18T 1/4 ID	2	M-O003036	87	Feed Roll Shaft	1	W-O095264
30	Nylon Gear 18T 3/8 ID	2	M-O003035	88	Aux. Feed Roll Shaft	1	W-O095263
31	Nylon Gear 24T 1/2 ID	1	M-O03034A	89	Retaining Ring	7	M-S010010
32	Dual Gear	1	W-O095136	90	Timing Belt 110	1	M-S025027
33	Compression Spring	4	M-S031059	91	10-32 Keps Nut	30	M-S007008
34	Bushing	6	M-S013009	92	12 Tooth Pulley 3/8	2	M-S022015
35	Bushing	2	M-S013008	93	Accessory Rubber Bushing	2	W-O003079
36	Nyliner	2	M-S014021	94	Rubber Guide Roller	2	M-O003080
37	Accessory Shaft Journal	2	W-O003019	95	Stripper	1	M-O003132
38	10-32 x 1 1/2 SHCS	1	M-S003032	96	Roller Adjust Channel	1	W-O095014
39	Bushing Retainer	1	M-O095204	97	(Feed) Roller Clutch Bearing	2	M-S020009
40	Timing Pulley	1	W-S022019	98	Adjustable Spring Stop	1	W-O095027
41	Side Cover (L.S.)	1	M-O095902	99	Vinyl Tip	1	M-S043046
42	Bearing Plate	1	W-O095275	100	Deflector Plate	1	W-O008012
43	Motor Shield Assembly	1	W-A095273	101	Pulley Guard Spacer	1	W-O095278
44	Base Stiffener	1	W-O095274	102	Pinch Guard	1	W-A095271
45	Motor 120 volt 60Hz.	1	M-S021048	103	Slitter (Optional)	1	WRA03085A
46	Feed Support Plate	1	W-O095286	104	Scoring Roller	2	M-O003083
47	Feed Support Spacer	2	W-O095277	105	Guide Roller Back Up Hub	2	M-O003076
48	Left Side Frame, 959 FR	1	W-A095282	106	Lower Back Up Hub	2	M-O003082
49	Plate Bushing	1	M-S013052	107	Paper Stop	2	W-O095012
50	Base Plate	1	W-O095284	108	Split Nut Spring	4	M-O095036
51	Compression Spring	4	M-S031034	109	Clamp Stud	4	M-O095322
52	Nylon Bearing	2	W-S014005	110	1/4-20x1/2 Hex Hd	4	M-S003004
53	Conveyor Belt	4	M-S024002	111	Retainer “E” Ring	6	M-S010004
54	Stacking Wheel Axle	1	M-O008011	112	Guide Finger Assy.	2	W-A095233
55	Stacking Wheel	4	M-S034001	113	Guide Finger Collar	2	M-O095221
56	Axle Box Housing	1	W-O003090	114	10-32 x 3/16 SHCS	2	M-S003082
57	Stacking Finger	1	W-O008013	116	Guide Finger	2	W-O095233
58	Stacking Wheel Shaft	1	W-O003093	117	Conveyor Idler Shaft	1	W-O003064

PARTS LIST CONT.

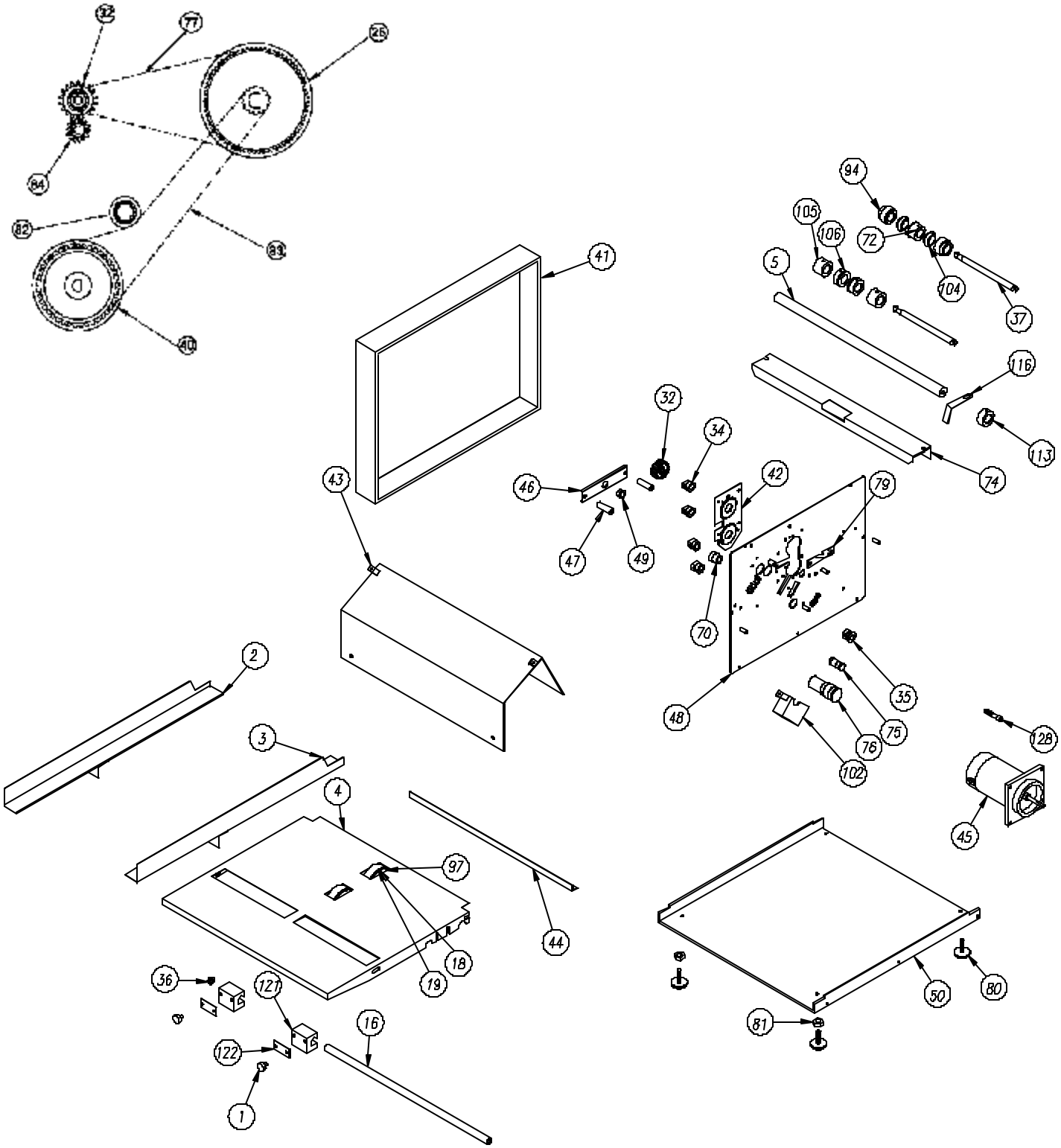
Item #	Description	Qty.	Part No.
118	Label	2	M-S015265
119	Idler Gear Stud	1	M-O003074
120	Idler Stud, 959	1	M-O095320
121	Rod Clamp	2	W-O095020
122	Grip Plate	2	W-O095051
123	3.5 Amp. Circuit Breaker	1	M-S045194
124	Cord 110 volt 60Hz	1	M-S037002
126	Retarder Assembly	1	WRA003116
127	Thick Flanged Bushing	1	M-S013013
128	10-32 x 1 1/2 SHC Screw	1	M-S003048
129	Tapered Index Pin		M-O095242
130	Speed Control Knob	1	M-S032057
131	Speed Control Plate	1	M-S015024
132	Belt Guard	1	W-O001560

220 Volt List (These parts will change w/a 220v machine)

15	ON/OFF Switch/Speed Cont. 220v.	1	M-O095207
45	Motor 220v 50Hz	1	M-S021050
71	R/S Frame	1	W-O095326
123	2.0 Amp Circuit Breaker	1	M-S045195
124	Cord 220v 50Hz	1	M-S037286
125	EMI Noise Filter	1	M-S045193

Not Illustrated:

	8-32x3/16 Rd Hd Phillips	3	M-S001128
	1/4-20x2 Carriage Bolt	1	M-S006015
	1/4x1/2x1/16 Flat Washer	1	M-S008008
	3/8x1 1/2x1/16 Flat Washer	1	M-S008044
	#8 ID Internal Lock Washer	1	M-S008061
	5/16x5/8x3/32 Washer	14	M-S008068
	5/32 Allen Wrench	1	M-S012009
	Wire Tie	3	M-S043018
	Cable Tie Mount	3	M-S029001
	3/32 Allen Wrench	1	M-S012003
	1/8 Allen Wrench	1	M-S012004
	Collar Bushing	2	M-S013051
	Feed Bearing Collar	2	M-O095266
	Shaft Bracket	2	W-O095269
	Pulley-Pinch Guard	1	W-O095270
	Retarder Spring	1	M-S031075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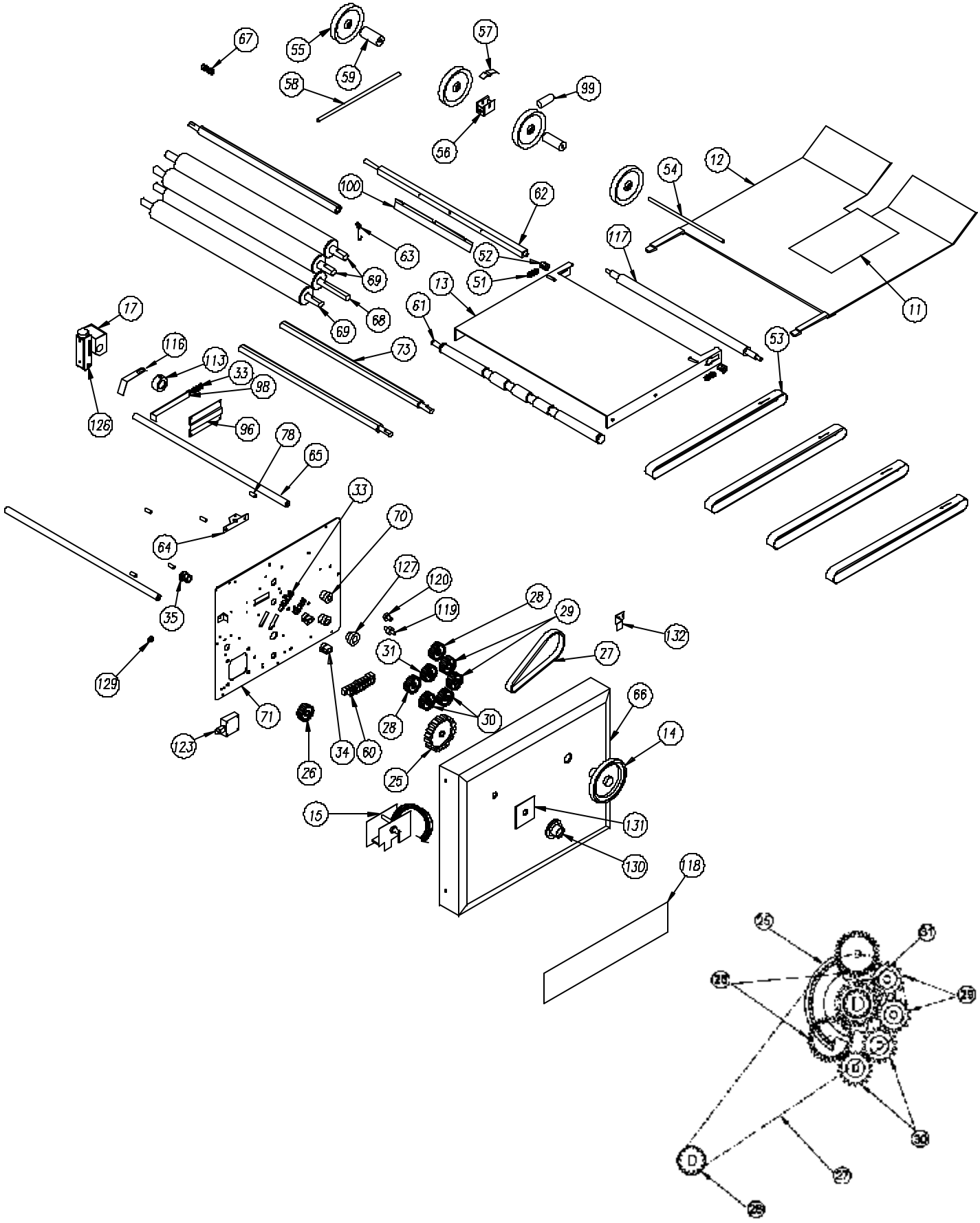
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Quick Reference Part Number List
Rollers And Bushings

Bushing part numbers are provided here for easy identification. Rollers are counted from top to bottom.

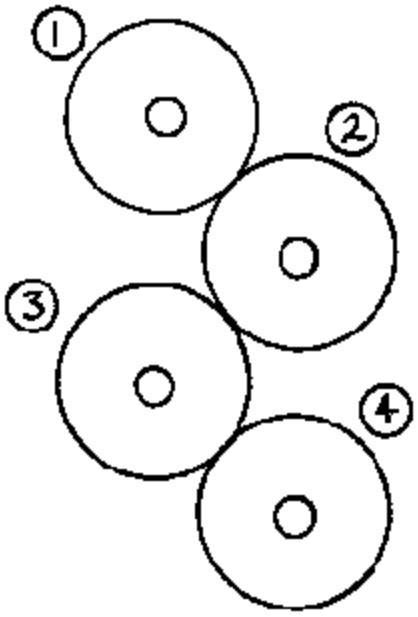
Roller #	Description	Roller Part #	Left Bushing Part #	Right Bushing Part #
1	Top Fixed Folding Roller	WRA003015	M-S013009	M-S013010
2	Floating Folding Roller•	WRA003015	M-S013009	M-S013009
3	Main Drive Roller	WRA095034	M-S013009	M-S013013
4	Bottom Floating Roller•	WRA003015	M-S013009	M-S013009

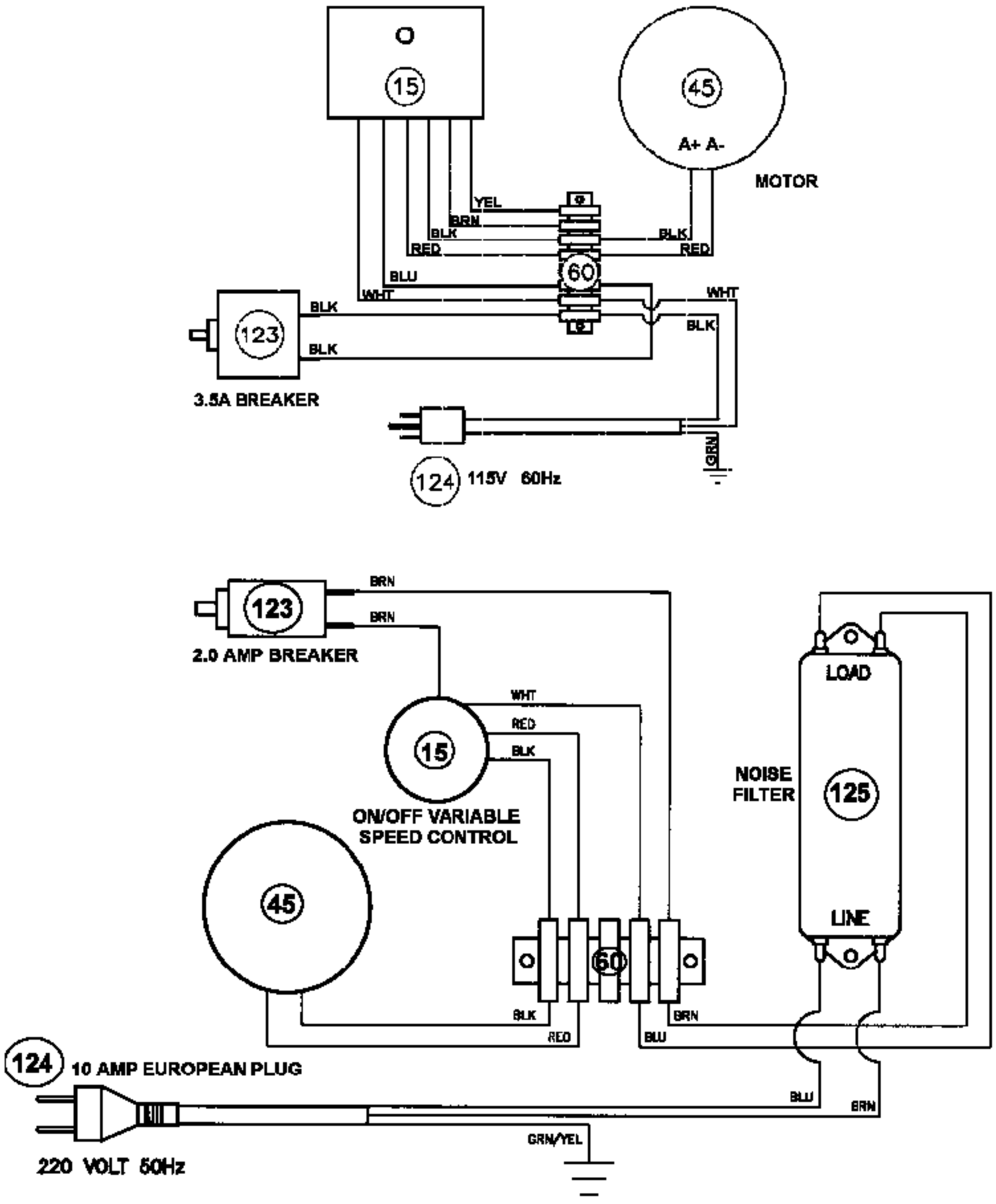
•Note: Each floating roller uses 2 springs, part number M-S031059.

Often requested part numbers:

Feed Roller Rubber (Red)	W-O008015
Retarder Rubber Roller w/Arbor	WRA003116
Roller Cleaner and Rejuvenator	200
Static Spray	300
Rubber Guide Roller on Accessory Shaft	M-O003080
Speed Control	WRA095500
Circuit Breaker	M-S045194
3 Tooth Perf	WRA03085C
14 Tooth Perf	W-A03085D

1. Roller = WRA003015
   Roller bearings = 1 M-S013009 (Non-operator side)
   1 M-S013010 (Operator side)
2. Roller = WRA003015
   Roller bearings = 2 M-S013009
   Roller springs = 2 M-S031059
3. Roller = WRA095034
   Roller bearings = M-S013009 (Non-operator side)
   M-S013013 (Operator side)
4. Roller = WRA003015
   Roller bearings = 2 M-S013009
   Roller springs = 2 M-S031059

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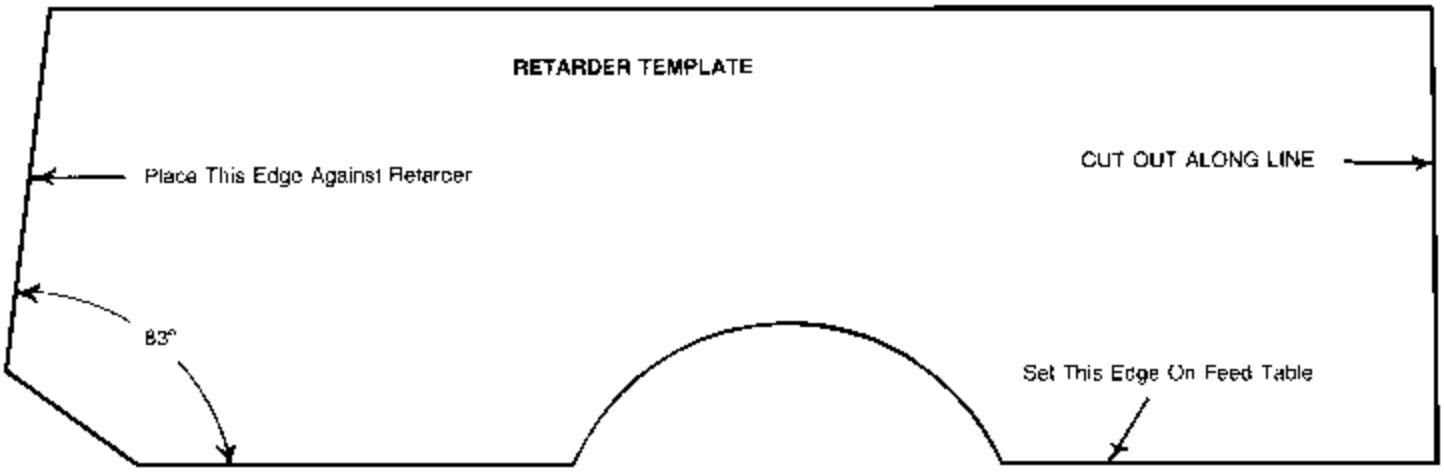

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